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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,852	02/14/2001	Gurbir Singh	42390P11016	2643

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EXAMINER

MASON, DONNA K

ART UNIT	PAPER NUMBER
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2181

DATE MAILED: 12/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/783,852

Applicant(s)

SINGH ET AL.

Examiner

Donna K. Mason

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-32, 40-42, 49-54 and 59-62 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7, 33-39, 43, 47, 55 and 56 is/are rejected.
- 7) ☒ Claim(s) 3-6, 8-18, 44-46, 48, 57, and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on February 14, 2001 does not fully comply with the requirements of 37 CFR 1.98 because: a copy of the reference entitled "*Pentium® Pro and Pentium® II System Architecture*, by Tom Shanley, MindShare, Inc., is omitted from the submission. Since the submission appears to be *bona fide*, applicant is given **ONE (1) MONTH** from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. **NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b).** Failure to timely comply with this notice will result in the above mentioned information disclosure statement being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 117. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

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115 (see Fig. 1). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because in Fig. 3A, it appears that the second REQUEST transaction phase should be denoted with a --2--. More specifically, the second occurrence of "1" in the REQUEST phase should be changed to --2--. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. See 37 CFR 1.83.

Specification

6. The disclosure is objected to because of the following informalities: On page 38, line 13, change "width of with" to --width of--. Appropriate correction is required.

Claim Objections

5. Claims 11-14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

6. Claim 48 is objected to because of the following informalities: In lines 4-5, an incomplete phrase "said address bus interface to drive" is recited after "element". The

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examiner recommends deleting --, said address bus interface to drive -- after "element" in lines 4-5. Appropriate correction is required.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 21 of copending Application No. 09/784,244. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claim 1 is generic to the bus agent of Application No. 09/784,244, and claim 21 falls entirely within the scope of claim 1. More specifically, because the bus agent of claim 21 is a species of the generic category defined by the bus agent of claim 1, the bus agent of claim 1, which recites a "control interface," an "address bus interface," and a data bus interface," is anticipated by claim 21 of Application No. 09/784,244.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claims 1, 2, 7, and 39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 55-57 of U.S. Patent No. 6,609,171 to Singh, et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims 1, 2, and 7 are generic to the bus agent of claims 55, 56, and 57, respectively, of U.S. Patent No. 6,609,171, and claims 55, 56, and 57 of U.S. Patent No. 6,609,171 fall entirely within the scope of claims 1, 2, and 7, respectively. Also, claim 39 of the examined application is generic to the bus agent of claim 55, and claim 55 falls entirely within the scope of claim 39. More specifically, because a control interface circuit is a species of the generic category defined by a "control interface," the bus agent of claims 1, 2, 7, and 39, which recite a "control interface, is anticipated by claims 55, 56, and 57 of U.S. Patent No. 6,609,171.

10. Claims 33-38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 58-63, respectively, of U.S. Patent No. 6,609,171. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims 33-38 are generic to the bus agent of claims 58-63, respectively of U.S. Patent No. 6,609,171, and claims 58-63 of U.S. Patent No. 6,609,171 fall entirely within the scope of claims 33-38,

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respectively. More specifically, because the bus agent of claims 58-63 is a species of the generic category defined by the bus agent of claims 33-38, where claim 33 recites "approximately" one clock cycle and having a transition at "substantially" a first, second, third, and fourth data element, the bus agent of claims 33-38 is anticipated by claims 58-63 of U.S. Patent No. 6,609,171.

11. Claim 43 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 21 of copending Application No. 09/783,784. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claim 43 is generic to the bus agent of Application No. 09/783,784, and claim 21 falls entirely within the scope of claim 43. More specifically, because the bus agent of claim 21, reciting a bus controller logic, is a species of the generic category defined by the bus agent of claim 43, reciting a "bus controller," the bus agent of claim 43 is anticipated by claim 21 of Application No. 09/783,784.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claim 47 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 22 of copending Application No. 09/783,784. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claim 47 is generic to the

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bus agent of Application No. 09/783,784, and claim 22 falls entirely within the scope of claim 47. More specifically, because the bus agent of claim 22, reciting a bus controller logic, is a species of the generic category defined by the bus agent of claim 47, reciting a "bus controller," the bus agent of claim 47 is anticipated by claim 22 of Application No. 09/783,784.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

13. Claims 55 and 56 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 55 and 57 of U.S. Patent No. 6,609,171 to Singh, et al. in view of U.S. Patent No. 6,487,621 to MacLaren.

U.S. Patent No. 6,609,171 discloses a control interface to drive a control signal at a clock frequency, an address bus interface to drive address elements at twice the clock frequency, the address bus interface driving a centered address strobe transition for each address element, and a data bus interface to drive data elements at four times the clock frequency, the data bus interface to drive a centered data strobe transition for each data element. U.S. Patent No. 6,609,171 also discloses an address bus interface circuit driving first and second address strobes, and four consecutive data elements, as claimed. U.S. Patent No. 6,609,171 does not expressly disclose an article including a machine-readable medium that carries data, as claimed.

MacLaren discloses an article including a machine-readable medium that carries data, as claimed (see Fig. 3, item 50). At the time of the invention, it would have been

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obvious to a person of ordinary skill in the art to combine the article of MacLaren with the bus agent of U.S. Patent No. 6,609,171. The suggestion or motivation for doing so would have been to provide a separate medium for storage of the system's instructions (see column 6, lines 56-67 to column 7, lines 1-11).

Therefore, it would have been obvious to combine MacLaren with U.S. Patent No. 6,609,171 to obtain the invention as specified in claims 55 and 56.

Allowable Subject Matter

14. Claims 19-32, 40-42, 49-54, and 59-62 are allowed.

15. Claims 3-6, 8-10, 15-18, 44-46, 48, 57, and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: The primary reason for the allowability of the claims is the inclusion of the limitations directed to driving address bus elements at twice the clock frequency and driving the data bus elements at four times the clock frequency. The prior art references are directed to a double-pumped bus architecture for the transmission of data elements, while the claims in the present application are directed to a quad-pumped bus architecture. The features of driving the address bus elements at twice the

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clock frequency and driving the data elements at four times the clock frequency are not found in the prior art references.

Conclusion

17. A shortened statutory period for reply is set to expire THREE MONTHS from the mailing date of this communication. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this communication.

18.



XUAN M. THAI
PRIMARY EXAMINER

TC2/00